

U.S. Application Serial No. 09/941,237  
Amendment and Response Dated June 4, 2004  
In Reply to Office Action Dated March 23, 2004

**Listing of Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-32 (canceled)

33. (previously presented) A method of manufacturing an orthodontic appliance comprising:

producing digital data defining a three-dimensional surface of an orthodontic appliance;

manufacturing the orthodontic appliance based on the digital data by a process that includes depositing material, in accordance with the digital data, layer by layer in a plurality of layers each constituting a two-dimensional cross section of a solid object having an edge defined by data of the three-dimensional surface, the layers being stacked in a third dimension to form the solid object having a three-dimensional surface defined by the data;

the solid object having the three-dimensional surface is an orthodontic appliance having a surface defined by the three-dimensional surface of the object.

Claims 34-36 (canceled)

37. (currently amended) ~~The method of claim 36 wherein:~~

A method of manufacturing an orthodontic appliance comprising:  
producing digital data defining a three-dimensional surface of an orthodontic  
appliance;

manufacturing the orthodontic appliance based on the digital data by a process that  
includes depositing material, in accordance with the digital data, layer by layer in a plurality of layers  
each constituting a two-dimensional cross section of a solid object having an edge defined by data  
of the three-dimensional surface, the layers being stacked in a third dimension to form the solid  
object having a three-dimensional surface defined by the data;

the material being selectively formed in each layer of a first portion of material that  
is removable chemically, thermally or mechanically, and a second portion of material that remains  
after removal of the first portion to form a pattern having the three-dimensional surface thereon in  
the shape of a custom orthodontic appliance or component thereof;

the material [[is]] including wax of at least two types, one forming said first portion  
and one forming said second portion, and the deposition thereof to selectively form the layers  
~~includes~~ including the selective depositing of the portions of material in layers to define a cross  
section of the object with said second portion forming the pattern and being at least partially  
surrounded by a removable medium formed of said first portion; and

the manufacturing of the orthodontic appliance including removing said first portion  
to form the pattern of the second portion and using the pattern in a manufacturing step to impart the  
shape to the orthodontic appliance, thereby producing the orthodontic appliance having a shape  
defined by the data.

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Claims **38-55** (canceled)

**56.** (previously presented) The method of claim **33** wherein:  
the appliance is an orthodontic bracket.

Claims **57-62** (canceled)